Maryland Historical Trust

Maryland Inventory of Historic Properties number: WA-III-120

Name: W-6083/MARBLE QUARRY RD. OVER LITTLE ANTIETAM CREEK.

The bridge referenced herein was inventoried by the Maryland State Highway Administration as part of the Historic Bridge Inventory, and SHA provided the Trust with eligibility determinations in February 2001. The Trust accepted the Historic Bridge Inventory on April 3, 2001. The bridge received the following determination of eligibility.

MARYLAND HISTORICAL TRUST	
Eligibility Recommended ___X___	Eligibility Not Recommended _____
Criteria: ____A ____B ____C ____D	Considerations: ___A ___B ___C ___D ___E ___F ___G __None
Comments: _____	
Reviewer, OPS: _Anne E. Bruder_____	Date: __3 April 2001____
Reviewer, NR Program: __Peter E. Kurtze_____	Date: __3 April 2001____

MARYLAND INVENTORY OF HISTORIC BRIDGES
HISTORIC BRIDGE INVENTORY
MARYLAND STATE HIGHWAY ADMINISTRATION/
MARYLAND HISTORICAL TRUST

MHT No. WA-III-120

SHA Bridge No. W-6083 **Bridge name** Marble Quarry Road over Little Antietam Creek

LOCATION:
Street/Road name and number [facility carried] Marble Quarry Road

City/town South-southeast of Keedysville; north-northwest of Locust Grove **Vicinity** ____

County Washington

This bridge projects over: Road____ **Railway**_____ **Water** X_____ **Land** ____

Ownership: State _____ **County** X **Municipal** _____ **Other** _____

HISTORIC STATUS:
Is the bridge located within a designated historic district? Yes _____ **No** X
National Register-listed district ____ **National Register-determined-eligible district** __
Locally-designated district _____ **Other** _____

Name of district _____

BRIDGE TYPE:
Timber Bridge _____:
Beam Bridge _____ **Truss -Covered** ___ **Trestle** ____ **Timber-And-Concrete** ___

Stone Arch Bridge _____

Metal Truss Bridge _____

Movable Bridge ____:
Swing _____ **Bascule Single Leaf** __ **Bascule Multiple Leaf** _____
Vertical Lift _____ **Retractile**_____ **Pontoon** _____

Metal Girder_____:
Rolled Girder _____ **Rolled Girder Concrete Encased** _____
Plate Girder _____ **Plate Girder Concrete Encased** _____

Metal Suspension _____

Metal Arch _____

Metal Cantilever _____

Concrete X_____:
Concrete Arch_____ **Concrete Slab** X **Concrete Beam** ___ **Rigid Frame** _____
Other _____ **Type Name** _____

DESCRIPTION:

Setting: Urban _____ **Small town** _____ **Rural** X

Describe Setting: Bridge No. W-6083 carries Marble Quarry Road over Little Antietam Creek in Washington County. The bridge is located north-northeast of Keedysville and north-northwest of Locust Grove. Marble Quarry Road runs generally east-west and Little Antietam Creek flows north. The area around the bridge is predominantly rural with large farms, open fields, and wooded areas located nearby.

Describe Superstructure and Substructure:

Although not a perfect match, this bridge resembles the Maryland SHA Design Standards from August 1922 for a 20' concrete slab. This structure is a two-span continuous concrete slab bridge. The superstructure consists of a concrete slab and closed concrete parapets. The parapets have six panels molded into the concrete which appear only on the outside of the parapet walls. The substructure is composed of concrete abutments, flared wingwalls, and a solid shaft pier. The structure has a length of 47' and a width of 14'. The span length is 30'.

According to the most recent inspection report, there are three transverse cracks across the top of the concrete slab near the pier. Water is flowing out of the construction joint between the east abutment wall and its footer near the inlet end. The wingwalls, abutments, piers and parapets have numerous areas of cracked, spalled and deteriorated concrete and efflorescence with the southwest wingwall being the worst. Concrete in this wingwall is breaking up and falling away. Slight scour has occurred at the upstream end of the pier and east abutment. The guardrail has been hit and is damaged at the southwest approach. In addition, reports from 1989 and 1991 indicate the slab is sagging.

Discuss Major Alterations:

In 1979 the bridge was determined to be in poor condition and was repaired in that year. According to available repair plans, the repairs included the placement of WF beam guardrails, repairing the concrete slab, epoxy coating the inside of the parapets, a concrete deck overlay, and bituminous paving for the bridge approaches. The 1983 inspection report notes that wingwalls on the upstream south side have been patched.

Washington County bridge files do not contain further information pertaining to repairs made the structure, the extent thereof, or when they took place.

HISTORY:

WHEN was the bridge built (actual date or date range) circa 1922
This date is: Actual _____ **Estimated** X
Source of date: Plaque ____ **Design plans** X **County bridge files/inspection form** ____
Other (specify) _____

WHY was the bridge built?
Unknown

WHO was the designer?
State Roads Commission

WHO was the builder?
State Roads Commission

WHY was the bridge altered?
Extent of alterations/repairs unknown

Was this bridge built as part of an organized bridge-building campaign?
Yes. This bridge was constructed as a part of post World War I improvements to secondary roads in Maryland.

SURVEYOR/HISTORIAN ANALYSIS:

This bridge may have National Register significance for its association with:
A - Events _____ B- Person _____
C- Engineering/architectural character _____

Was the bridge constructed in response to significant events in Maryland or local history?
Reinforced concrete slab bridges are a twentieth century structure type, easily adapted to the need for expedient engineering solutions. Reinforced concrete technology developed rapidly in the early twentieth century with early recognition of the potential for standardized design. The first U.S. attempt to standardize concrete design specifications came in 1903-04 with the formation of the Joint Committee on Concrete and Reinforced Concrete of the American Society of Civil Engineers.

Maryland's road and bridge improvement programs mirrored economic cycles. The first road improvement program of the State Roads Commission was a 7 year program, starting with the Commission's establishment in 1908 and ending in 1915. Due to World War I, the period from 1916-1920 was one of relative inactivity; only roads of first priority were built. Truck traffic resulting from war-related factories and military installations generated new, heavy traffic unanticipated by the builders of the early road system. From 1920 to 1929, numerous highway improvements occurred in response to the increase in Maryland motor vehicles from 103,000 in 1920 to 320,000 in 1929, with emphasis on the secondary system of feeder roads which moved traffic from the primary roads built before World War I. After World War I, Maryland's bridge system also was appraised as too narrow and structurally inadequate for the increasing traffic, with plans for an expanded bridge program to be handled by the Bridge Division, set up in 1920. In 1920 under Chapter 508 of the Acts of 1920 the State issued a bond of $3,000,000.00 for road construction; the primary purpose of these monies was to meet the state obligations involving the construction of rural post roads. The secondary purpose of these monies was to fund [with an equal sum from the counties] the building of lateral roads. The number of hard surfaced roads on the state system grew from 2000 in 1920 to 3200 in 1930.

With a diverse topographical domain encompassing numerous small and large crossings, Maryland engineers quickly recognized the need for expedient design and construction.

In the early years, there was a need to replace the numerous single lane timber bridges. Walter Wilson Crosby, Chief Engineer stated in 1906, "The general plan has been to replace these [wood bridges] with pipe culverts or concrete bridges and thus forever do way with the further expense of the maintenance of expensive and dangerous wooden structures". Within a few years, readily constructed standardized bridges of concrete were being built throughout the state.

The creation of standard plans and a description of their use was first announced in the 1912-15 Reports of the State Roads Commission whereby bridges spanning up to 36 feet were to use standardized designs.

Published on a single sheet, the 1912 Standard Plans included those structures that were amenable to such an approach: slab spans, (deck) girder spans, box culverts, box bridges, abutments, and piers (State Roads Commission 1912). Slab spans, with lengths of 6 to 16 feet in two foot increments, featured a solid parapet that was integrated into the slab, with a roadway of 22 feet.

In the Report for the years 1916-1919, a revision of the standard plans was noted:

> During the four years covered by this report, it has been found necessary to revise our standard plans for culverts and bridges, to take care of the increased tonnage which they have been forced to carry. Army cantonments...increased their operations several hundred per cent, and the brunt of the enormous truck traffic resulting therefrom, was borne by the State Roads of Maryland. In addition to these war activities, freight motor lines from Baltimore to Washington, Philadelphia, New York, and various points throughout Maryland, and the weight of many of these trucks when loaded, was in excess of the loads for which our early bridges were designed (State Roads Commission 1920:56).

Published on separate sheets, the new standard plans (State Roads Commission 1919) for slab bridges reveal that the major changes was an increase in roadway width from 22 feet to 24 feet and a redesign of the reinforcement. The slab spans continued to feature solid parapets integrated into the span. The range of span lengths remained 6 to 16 feet, but the next year (1920) witnessed the issue of a supplemental plan for a 20 foot long slab span (State Roads Commission 1920).

When the bridge was built and/or given a major alteration, did it have a significant impact on the growth and development of the area?
Unknown.

Is the bridge located in an area which may be eligible for historic designation and would the bridge add to or detract from the historic/visual character of the potential district?
This bridge is not located in an area which may be eligible for designation as a historic district. It is, however, situated near two large farmsteads, both with numerous related outbuildings, which are potentially eligible for historic designation. In addition, there are ruins located south-southwest of the bridge.

Is the bridge a significant example of its type?
No. Bridge No. W-6083 is one of many concrete slab bridges built after the first World War in Maryland. Many of its character defining elements are in a deteriorated state, and it is an undistinguished example of its type.

Does the bridge retain integrity of important elements described in Context Addendum?
No. This bridge appears to have its character defining elements intact. However, inspection reports indicate the condition of the structure is deteriorating, and there is the possibility of chloride contamination. Finally, when the guardrails were attached to the parapets in 1979, the original concrete fabric was damaged.

Is the bridge a significant example of the work of a manufacturer, designer, and/or engineer?
This bridge is not a significant example of the work of the State Roads Commission.

Should the bridge be given further study before an evaluation of its significance is made?
No further evaluation is necessary to determine National Register significance. Although it reflects the state's post World War I expansion of secondary road systems, it is an undistinguished example of its type. However, additional research concerning the history of this bridge and its relationship to the surrounding landscape may be useful in providing a more complete picture of the bridge's background.

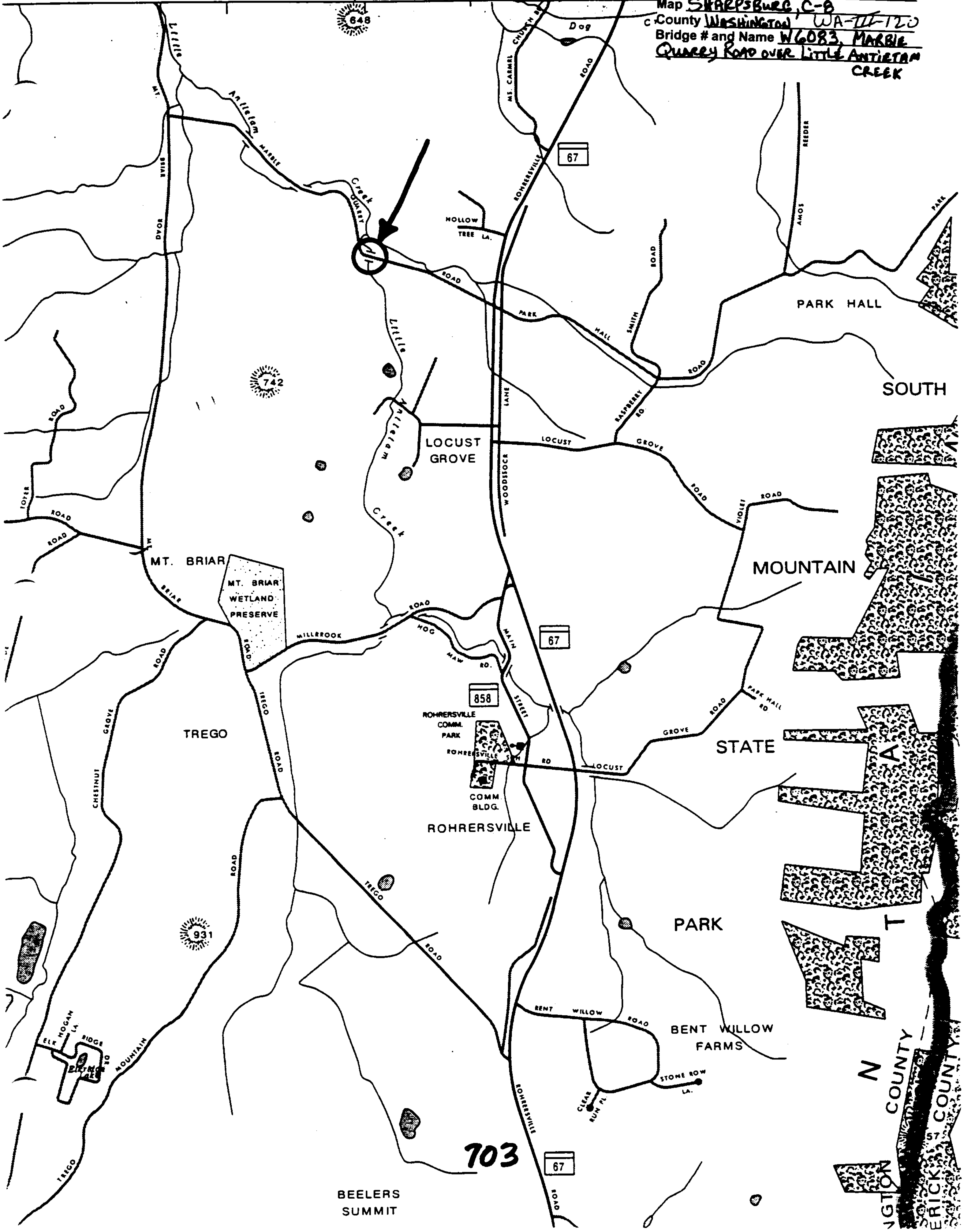
BIBLIOGRAPHY:

County inspection/bridge files X **SHA inspection/bridge files** _____
Other (list):

SURVEYOR:

Date bridge recorded August 1995
Name of surveyor Adrienne Beaudet Cowden
Organization/Address P.A.C. Spero & Company; 40 West Chesapeake Avenue, Suite 412; Baltimore, Maryland 21204
Phone number 410-296-1635 **FAX number** 410-296-1670

Maryland Historic Highway Bridges
Bridge Type CONCRETE SLAB
Map SHARPSBURG, C-8
County WASHINGTON WA-III-120
Bridge # and Name W6083, MARBLE QUARRY ROAD OVER LITTLE ANTIETAM CREEK


1120
270
610
77°40'00"
TO BOONSBORO
648
Little Antietam Creek
MARBLE QUARRY ROAD
MT. BRIAR ROAD
MS. CARMEL CHURCH RD
Dog
ROHRERSVILLE ROAD
67
HOLLOW TREE LA.
PARK HALL ROAD
SMITH ROAD
REEDER
AMOS
PARK HALL
SOUTH
742
LOCUST GROVE
WOODSTOCK LANE
LOCUST GROVE ROAD
RASPBERRY RD
VIOLET ROAD
TOYER ROAD
MT. BRIAR
MT. BRIAR WETLAND PRESERVE
MILLBROOK ROAD
HOG MAW RD.
MAIN STREET
MOUNTAIN
858
ROHRERSVILLE COMM. PARK
ROHRERSVILLE SCH RD
COMM. BLDG.
ROHRERSVILLE
TREGO
TREGO ROAD
CHESTNUT GROVE ROAD
STATE
931
PARK
BENT WILLOW ROAD
BENT WILLOW FARMS
STONE ROW LA.
CLEAR RUN PL
ELK HOGAN LA.
RIDGE DR
MOUNTAIN
BEELERS SUMMIT
COUNTY
57

703

BR # 20W6083 10 WA III - 120

OVER LITTLE ANTIETAM CREEK

WASHINGTON CO., MD.

DAVID KING

2/23/95

S.H.A.

NORTHWEST APPROACH

1 OF 4

BR #20W608310 WA-III-120

OVER LITTLE ANTIETAM CREEK

WASHINGTON CO., MD.

DAVID KING

2/23/95

S.H.A

SOUTHWEST ELEVATION (UPSTREAM)

2 OF 4

BR #20W608310 WA-III-120

OVER LITTLE ANTIETAM CREEK

WASHINGTON CO., MD

DAVID KING

2/23/95

S. H. A.

NORTHEAST

SOUTHEAST APPROACH

3 OF 4

BR # 20W608310 WA-III-120

OVER LITTLE ANTIETAM CREEK

WASHINGTON CO., MD.

DAVID KING

2/23/95

S. H. A.

NORTHEAST ELEVATION

4 OF 4